

## The genus *Ephebopus* Simon, 1892. Description of the male of *Ephebopus murinus* (Walckenaer), 1837

(Araneae, Theraphosidae, Aviculariinae)

By Sylvia Lucas, Pedro Ismael da Silva Junior and Rogério Bertani

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The genus *Ephebopus* Simon, 1892 which had been included by Raven (1985) in the subfamily Theraphosinae Thorell, 1870 is transferred to the subfamily Aviculariinae Simon, 1892 based on the comparative study of the characters shown by the genera of this subfamily. We describe the male of *Ephebopus murinus* (Walckenaer), 1837, collected in the State of Pará, Brazil.

Sylvia Lucas, Pedro Ismael da Silva Junior and Rogério Bertani, Dept. Biologia, Instituto Butantan, Av. Vital Brazil, 1500 Sao Paulo, Sao Paulo, Brasil CEP 05504

### Introduction

The genus *Ephebopus* Simon, 1892, was tentatively included by Raven (1985) in the subfamily Theraphosinae Thorell, 1870, although the diagnostic characters of the males were unknown, since the three described species are known only from females. On several expeditions in the Amazonian region of Brazil the authors collected numerous specimens of *Ephebopus murinus* (Walckenaer), 1837, among them some males which are described in this paper. We also confirm the synapomorphies of the subfamily Aviculariinae Simon, 1892, having studied species from all genera of that subfamily: *Avicularia* Lamarck, 1818; *Ephebopus* Simon, 1892; *Iridopelma* Pocock, 1901; *Pachistopelma* Pocock, 1901 and *Tapinauchenius* Ausserer, 1871.

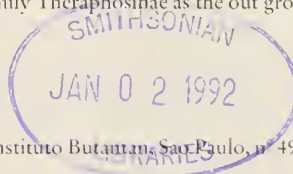
### Material and Method

The material deposited in the Arachnological Collection of Mygalomorphae and also six still living specimens of the Instituto Butantan were studied. For the polarization of the characters we used the method of out group comparison following Watrous & Wheeler (1981), considering the subfamily Theraphosinae as the out group.

Material examined:

Genus *Ephebopus*

Allotypus, male, Tucuruí (PA, BR) Arachnological Collection of Instituto Butantan, Sao Paulo, n° 4937, jun. 86, Faunal Rescue.



Brazil – Para: Santarém, female, n° 2506, feb. 49, H. Sioli leg; ibidem, female, n° 2507; Marabá, female, n° 4167, oct. 75, J. Navas leg; Tucuruí, six females, n° 4838, 84–85, Faunal Rescue; ibidem, five males and six females; n° 4938, 84–85, Faunal Rescue.

Genus *Avicularia* (93 females, 26 males and 15 juveniles)

Brazil – Amapá (Pacoval), Amazonas (Benjamin Constant, Humaitá, Iauarete, Itacotiara, Manaus, Pico da Neblina, Presidente Figueiredo), Mato Grosso (Xingú, Sinop), Pará (Belém, Castanhal, Itaituba, Itupiranga, Marabá, Paragominas, S. Felix do Xingú, Tucuruí), Rondonia (Ariquemés, Porto Velho).

Genus *Iridopelma* (1 female and 3 males)

Brazil – Bahia (Salvador), Paraíba, Rio Grande do Norte (Parnamirim).

Genus *Tapinauchenius* (24 females and 22 males)

Brazil – Amazonas (Presidente Figueiredo), Pará (Tucuruí), Rondonia (Porto Velho).

Genus *Pachistopelma* (4 females, 2 males and 2 juveniles)

Brazil – Bahia (Itapoã, Salvador), Sergipe (Poço Redondo, Nossa Senhora de Glória).

### Diagnosis of the Genus *Ephebopus*

We consider as an autapomorphy the presence of an area of urticant hairs on the prolateral surface of the pedipalp femur (Fig. 3). These hairs are analogous to those on the back of the abdomen of *Avicularia*, described by Cooke (1973), who first mentioned the importance of these hairs for the systematics. Captive spiders we observed, have a hair shedding behaviour, in which the pedipalps are brought down across the basal segments of the chelicerae throwing the hairs against the invisor as described by Marshall (1988).

### Diagnosis of the Subfamily Aviculariinae

After the study of several specimens of all genera of the subfamily Aviculariinae we consider as valid the following synapomorphies which were also cited by Raven (1985): legs weakly spined or aspinose; tarsi I and II, especially in females, as broad as, or broader than metatarsi (scopula spatulate); scopula on metatarsus III not extending all over the segment, on metatarsus IV only apical. We also observed the presence of urticating hairs of type II (Figs 4a and 4b) following the classification of Cooke (1973) which occur in all genera of the subfamily, with exception of *Tapinauchenius*, which is considered a reversion.

### Description of the Male of *Ephebopus murinus*

Measurements of the allotypus – total length with chelicerae: 37,8 mm; total length without chelicerae: 34,2 mm; cephalothorax: 15,3 mm / 13,4 mm; total length of the legs: I: 58,5 mm; II: 50,2 mm; III: 43,2 mm; IV: 52,6 mm (I, IV, II, III).

The colour is identical with that of female. The male bulbus is globose with a long and slender, slightly curved embolus (Figs 1a and 1b); the tibial apophysis is double, with two unequal spurs curved inside, the bigger being more external; metatarsus I shows a curvature on the basis, it closes against the same on the external side (Fig. 2).

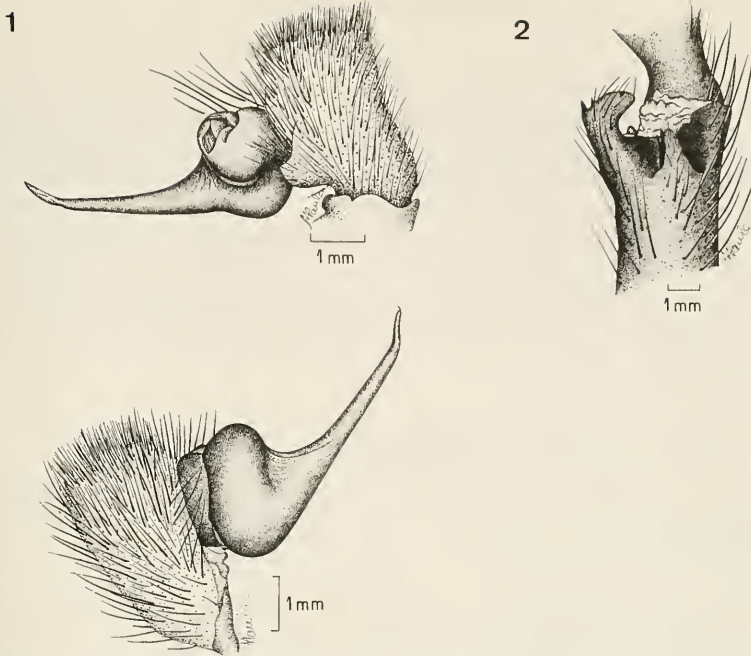


Fig. 1. Male palpal bulbus of *Ephebopus murinus*. a. Internal view of right bulbus; b. External view of right bulbus.

Fig. 2. Male tibial apophysis of *Ephebopus murinus*.



Fig. 3. Area of urticant hairs on the prolateral surface of the pedipalp femur of *Ephebopus murinus*.

Fig. 4. Urticant hairs of type II. left *Ephebopus murinus*; right *Avicularia avicularia*.

## Discussion and Conclusion

The genus *Epebopus* shares the synapomorphies of the subfamily Aviculariinae and must be transferred to it. The study of the male of *E. murinus* confirms this conclusion, because in all species of the subfamily Theraphosinae the males have the embolus distally stout and broad or keeled (Raven 1985), whereas in the subfamily Aviculariinae the males have the embolus long, curved and without keels. The spinose process (mound) between the lobes of the male palpal tarsi, considered by Raven (1985) a synapomorphy of the whole subfamily, is only a synapomorphy of the genera *Avicularia*, *Iridopelma* and *Pachistopelma*, being absent on the two other genera. The morphology of the urticating hairs, described by Cooke (1973) for *Avicularia* as type II, is probably another synapomorphy of this subfamily, pending confirmation. Until now we did not observe this type of hair in several genera of Theraphosinae. All mentioned characters now allow the identification of males and females of the genera of this subfamily.

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## Literature

- Cooke, J. A. L., V. D. Toth & F. M. Miller 1973. The urticating hairs of Theraphosid Spiders. — *Am. Mus. Nov.* **2498**: 1–43
- Marshall, S. 1988. The pedipalpal brush of *Epebopus* sp: a field of urticating hairs? — (abstract) *Amer. Arachnol.* **38**: 7
- Raven, R. J. 1985. The Spider Infraorder Mygalomorphae (Araneae). Cladistics and Systematics. — *Bull. Am. Mus. Nat. Hist.* **182** (1): 1–180
- Simon, E. 1892. *Histoire Naturelle des Araignées*. — Paris, **1** (1): 1–256, figs 1–215
- Walckenaer, C. A. 1837. *Histoire Naturelle des Insectes. Aptères*. — Paris, **1**: 1–682
- Watrous, L. E. & Q. D. Wheeler 1981. Out-group Comparison Method of Character Analysis. *Systematic Zoology*. — *Syst. Zool.* **30** (1): 1–11